LEG-LOWERING BEHAVIOR OF RAPTORS DURING STATIONARY FLIGHT

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On 16 September 1975, while watching for migrating raptors, I observed two adult Red-tailed Hawks (*Buteo jamaicensis*) flying south above a series of north-south ridges near the foothills of the Front Range of the Rocky Mountains east of Lakewood, Colorado. The wind, from the northwest at 19.5 km/hr as measured by a hand-held anemometer, struck the ridges, creating strong upcurrents along the windward side. One of the hawks turned into the wind over the crest of a ridge, partly folded its wings, and lowered its pitch to about 20° below the horizontal. The force of the upcurrents caused it to be blown backwards along its path for about 1 m, after which it lowered its legs. This action caused the hawk to remain stationary with respect to the ground, but the position differed from hovering in that the wings were held in a semifolded position, not flapped, and the tail was folded, not fanned.

The hawk remained stationary with its legs extended for about 1 minute and scanned the hillside below before folding its wings more and diving. The dive was not completed, and the hawk raised its legs and turned to fly south along the ridge.

Pennycuick (*Ibis* 114:190) observed vultures lowering their legs in order to keep from being carried too high while flying through strong, closely spaced thermals. Lowered legs increase the drag and sinking speed of birds. The Red-tailed Hawk was probably using the same method to keep from being blown away from the ridge by the upcurrents while he hunted the hillside.

The only other published record I have found of a raptor lowering its legs in flight was a note (Conner, *Bird Banding* 45:269) on Red-tailed Hawk courtship behavior. Subsequently I have seen other Red-tailed Hawks, a Ferruginous Hawk (*Buteo regalis*), a Golden Eagle (*Aquila chrysaetos*), and American Kestrels (*Falco sparverius*) lower their legs while flying stationary under circumstances similar to those described above. This behavior appears to be fairly common among raptors but has not been well documented.